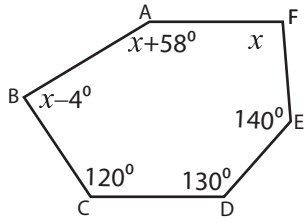
Name : _____ Score : _____

Angles in Polygon

Example:



Sum of the interior angles = (Number of sides – 2) x 180^0
= (6 – 2) x 180^0
= 4 x 180 = **720^0**

Sum of the interior angles = 120^0 + 140^0 + 130^0 + x+58^0 + x – 4^0 + x

720^0 = 444^0 + 3 x

3 x = **720^0** – 444^0 =276^0

$x = \frac{276^0}{3} = \mathbf{92^0}$

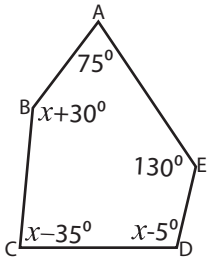
$\angle A = x+58^0 = \mathbf{92^0} + 58^0 = \mathbf{150^0}$

$\angle B = x-4^0 = \mathbf{92^0} - 4^0 = \mathbf{88^0}$

$\angle F = x = \mathbf{92^0}$

Find the missing angle for each irregular polygon.

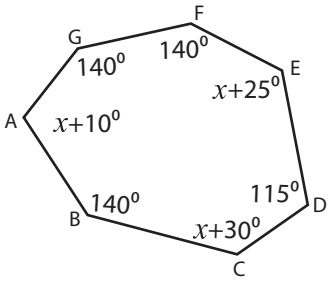
1)



Sum of the interior angles = _____

x = ____ ;∠B = ____ ;∠C = ____ ;∠D = ____

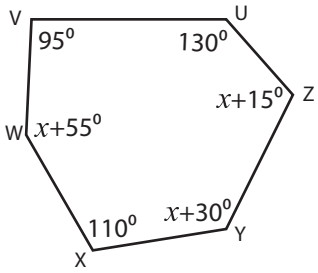
2)



Sum of the interior angles = _____

x = ____ ;∠A = ____ ;∠C = ____ ;∠E = ____

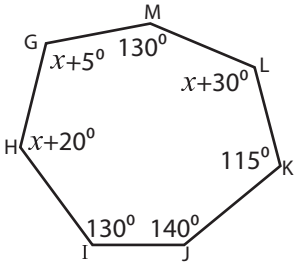
3)



Sum of the interior angles = _____

x = ____ ;∠W = ____ ;∠Y = ____ ;∠Z = ____

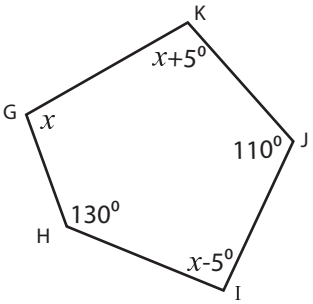
4)



Sum of the interior angles = _____

x = ____ ;∠G = ____ ;∠H = ____ ;∠L = ____

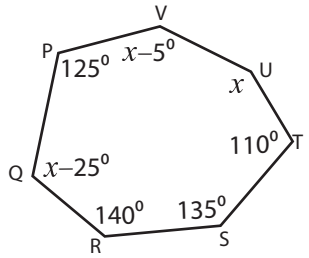
5)



Sum of the interior angles = _____

x = ____ ;∠G = ____ ;∠I = ____ ;∠K = ____

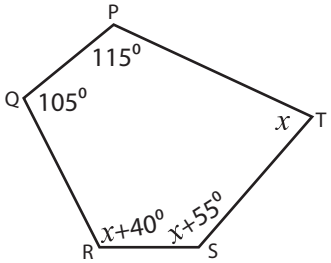
6)



Sum of the interior angles = _____

x = ____ ;∠Q = ____ ;∠U = ____ ;∠V = ____

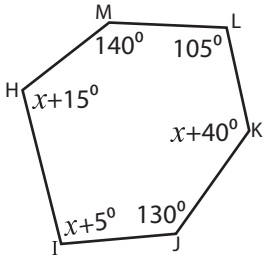
7)



Sum of the interior angles = _____

x = ____ ;∠R = ____ ;∠S = ____ ;∠T = ____

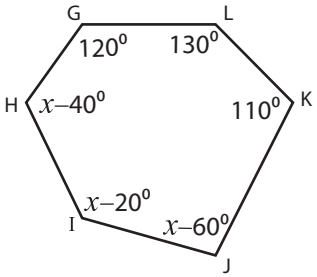
8)



Sum of the interior angles = _____

x = ____ ;∠H = ____ ;∠I = ____ ;∠K = ____

9)



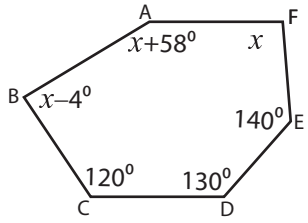
Sum of the interior angles = _____

x = ____ ;∠H = ____ ;∠I = ____ ;∠J = ____

Name : _____ Score : _____

Answer Key

Example:



Sum of the interior angles = (Number of sides – 2) x 180^0
= (6 – 2) x 180^0
= 4 x 180 = **720^0**

Sum of the interior angles = $120^0 + 140^0 + 130^0 + x+58^0 + x - 4^0 + x$

$720^0 = 444^0 + 3x$

$3x = 720^0 - 444^0 = 276^0$

$x = \frac{276^0}{3} = 92^0$

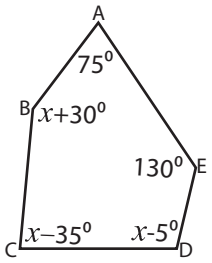
$\angle A = x+58^0 = 92^0 + 58^0 = 150^0$

$\angle B = x-4^0 = 92^0 - 4^0 = 88^0$

$\angle F = x = 92^0$

Find the missing angle for each irregular polygon.

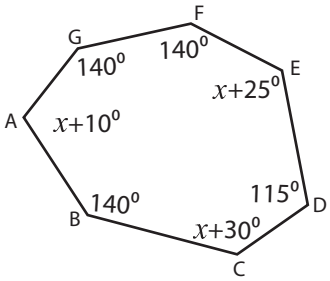
1)



Sum of the interior angles = **540^0**

x = **115^0**; $\angle B$ = **145^0**; $\angle C$ = **80^0**; $\angle D$ = **110^0**

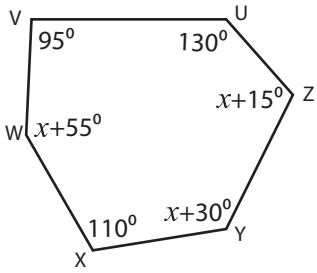
2)



Sum of the interior angles = **900^0**

x = **100^0**; $\angle A$ = **110^0**; $\angle C$ = **130^0**; $\angle E$ = **125^0**

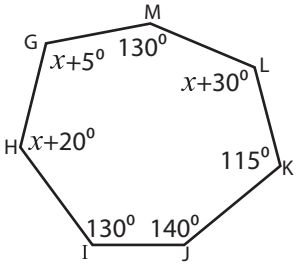
3)



Sum of the interior angles = **720^0**

x = **95^0**; $\angle W$ = **150^0**; $\angle Y$ = **125^0**; $\angle Z$ = **110^0**

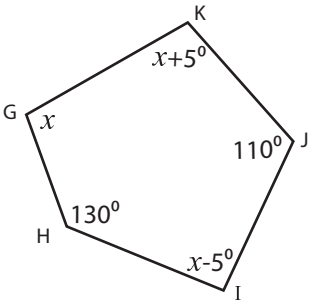
4)



Sum of the interior angles = **900^0**

x = **110^0**; $\angle G$ = **115^0**; $\angle H$ = **130^0**; $\angle L$ = **140^0**

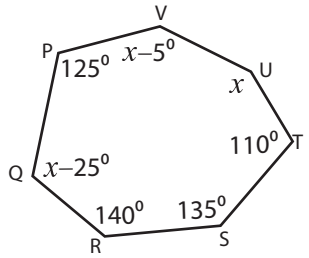
5)



Sum of the interior angles = **540^0**

x = **100^0**; $\angle G$ = **100^0**; $\angle I$ = **95^0**; $\angle K$ = **105^0**

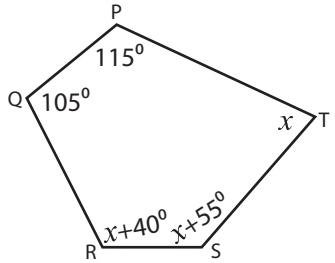
6)



Sum of the interior angles = **900^0**

x = **140^0**; $\angle Q$ = **115^0**; $\angle U$ = **140^0**; $\angle V$ = **135^0**

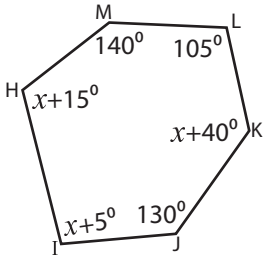
7)



Sum of the interior angles = **540^0**

x = **75^0**; $\angle R$ = **115^0**; $\angle S$ = **130^0**; $\angle T$ = **75^0**

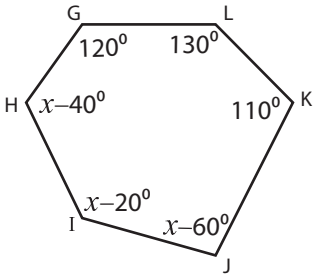
8)



Sum of the interior angles = **720^0**

x = **95^0**; $\angle H$ = **110^0**; $\angle I$ = **100^0**; $\angle K$ = **135^0**

9)



Sum of the interior angles = **720^0**

x = **160^0**; $\angle H$ = **120^0**; $\angle I$ = **140^0**; $\angle J$ = **100^0**